

INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

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| Reporting Year: 2003 | Park: Shenandoah NP |
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| Permit#: SHEN-2002-SCI-0022 | |
| Park-assigned Study Id. #: SHEN-00058 | |
| Project Title: Timber Rattlesnake Population Monitoring | |
| Permit Start Date: Jan 01, 2002 | Permit Expiration Date Dec 31, 2008 |
| Study Start Date: Jan 01, 2002 | Study End Date Dec 31, 2027 |
| Study Status: Continuing | |
| Activity Type: Research | |
| Subject/Discipline: Herpetology (Amphibians / Reptiles) | |
| Objectives: 1. Locate overwintering dens and birthing rookeries. 2.Determine movements of snakes. 3. Determine timing of seasonal activities. 4.Determine rates of growth, shedding, maturation, reproduction, and survivorship. 5. Investigate annual variations in life history characteristics. 6. Investigate relationship between weather, acorn production, rodents, and rattlesnake reproduction. 7. Investigate relationship between weather and failure to bring the young to term. 8. Determine long-term population trends. | |
| Findings and Status: In 2003, 12 days were spent in Shenandoah and 11 sites were visited in a Timber Rattlesnake monitoring project. Three new overwintering dens were located. Excluding litters of newborn, 141 rattlesnakes were recorded. A high proportion (N=51) of the total consisted of pregnant females. The reproductive effort may have been the highest since 1987. However the potentially high reproduction may have been somewhat compromised by the 3-4 week delay in parturition dates. First den visit was on 29 April but some snakes were delayed from leaving the dens by unfavorable weather and four of seven snakes seen on 6 June were still at a high-elevation (3150 ft) overwintering den. On 5 September at a relatively low-elevation site (three dens within about 1 km, elevation 1400-1700 ft) with an average parturition date of 20 August, one female was seen with a litter and 17 were pregnant. An additional 38 copperheads, most of them pregnant females, were also observed here. On 10 October at a relatively high (2800 ft) birthing rookery, 3-4 litters were observed with three postpartum females, one pregnant female, and one giving birth. At the highest elevations, females were unable to bring the young to term. The effects of a delayed parturition on the survivorship of both the mother and young are unknown. Typically both mother and young attempt to get a meal after the postnatal molt of the young which typically occurs about 1-2 weeks after birth. Most mothers and young were precluded from feeding in the fall of 2003. In fact many of the young may not have been able to shed the skin and this might affect survivorship. In general, snakes looked to be in rather poor condition and no breeding activity was noted. Very low reproduction can be anticipated in 2004. | |
| For this study, were one or more specimens collected and removed from the park but not destroyed during analyses? No | |
| Funding provided this reporting year by NPS: 0 | Funding provided this reporting year by other sources: 1500 |
| Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or | |

| college | |
|-------------------------------------|--|
| Full name of college or university: | Annual funding provided by NPS to university or college this reporting year: |
| n/a | 0 |